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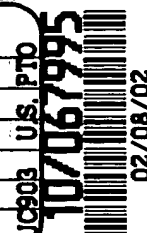
INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 5

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Application Number _____
Filing Date _____
First Named Inventor _____
Group Art Unit 1616
Examiner Name BAWA, R.
Attorney Docket Number _____



U.S. PATENT DOCUMENTS

Examiner Initials [*]	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
		6,264,945		Fischetti et al.	07-24-2001	
		6,254,866		Fischetti et al.	07-03-2001	
		6,248,324		Fischetti et al.	06-19-2001	
		6,238,661		Fischetti et al.	05-29-2001	
		6,056,955		Fischetti et al.	05-02-2000	
		6,056,954		Fischetti et al.	05-02-2000	
		6,017,528		Fischetti et al.	01-25-2000	
		5,997,862		Fischetti et al.	12-07-1999	
		5,985,271		Fischetti et al.	11-06-1999	
		5,688,501		Merril et al.	11-18-1997	
		4,957,686		Norris	09-18-1990	
		5,604,109		Fischetti et al.	02-18-1997	
		5,882,631		Suga et al.	03-16-1999	
		5,741,487		Asai et al.	04-21-1998	
		6,113,887		Mori et al.	09-05-2000	
		4,122,158		Schmitt	10-24-1978	
		3,983,209		Schmitt	09-28-1976	
		6,113,887		Mori et al.	09-05-2000	
		4,885,163		Shaar et al.	12-05-1989	

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FOREIGN PATENT DOCUMENTS

Examiner Initials [*]	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)				
			WO 97 02351 A		CIBA GEIGY AG, et al.	01-23-1997		
			WO 96 07329 A		UNIV. MARYLAND	03-14-1996		
			EP 0 510 907 A		AGRICULTURAL & FOOD RES	10-28-1992		
			WO 99 04809 A		AMBI INC	02-04-1999		

Examiner Signature	Date Considered
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¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet

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Application Number

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First Named Inventor

Group Art Unit

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1619

BAWA

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Reisenger, et al. (1998) "Characterization of Escherichia coli lysis using a family of chimeric E-L Genes" <i>Fems Microbiol Letter.</i> 164(1) p.159-167	
		Sheehan MM, et al. (1997) "The lytic enzyme of the Pneumococcal Phage Dp-1: a chimeric lysis of intergeneric origin." <i>Mol. Microbiol.</i> 25(4) p. 717-725	
		Young et al. (2000) "Phages will out: strategies of host cell lysis." <i>Trends in Microbiology.</i> 8(4) p. 120-127	
		Garcia et al.(1997) "The Pneumococcal cell wall degrading enzymes: A modular design to create new lysins?" <i>Microb. Drug Resist.</i> 3(2): p. 199-211	
		Sheehan MM, et al., (1997) "The Lytic Enzyme of the Pneumococcal Phage Dp-1: a Chimeric Lysin of Intergeneric Origin" <i>Mol. Microbiol.</i> 25(4) p. 717-25	
		Garcia P, et al. (1997) "Bacteriophages of Streptococcus pneumoniae: a molecular approach" <i>Microb. Drug Resist.</i> 3(20) 165-76.	
		Sheehan, MM, et al.(1996) "Analysis of the catalytic domain of the lysin of the lactococcal bacteriophage Tuc2009 by chimeric gene assembling." <i>FEMS Microbiol.Lett.</i> 14(1): p. 23-28.	
		Sanz, JM, et al. (1996) "Construction of a multifunctional pneumococcal murein hydrolase by module assembly." <i>Eur. J. Biochem.</i> 235(3):601-5	
		Lopez R, et al. (1995) "Architecture and Domain Interchange of the Pneumococcal Cell Wall Lytic Enzymes" <i>Dev. Biol. Stand.</i> 85 p. 273-81.	

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Sheet

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Application Number

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First Named Inventor

Group Art Unit

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1619

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OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Croux, et al.(1993) "Interchange of Functional Domains Switches Enzymes Specificity: Construction of a chimeric pneumococcal-clostridial cell wall lytic enzyme." <i>Mol. Microbiology</i> . 9(5) p. 1019-25.	
		Diaz, E. et al. (1990) "Chimeric phage-bacterial enzymes: a clue to the modular evolution of genes. <i>PNAS</i> . 87(20) p. 8125-9.	
		Diaz, E. et al.(1990) "Chimeric pneumoccal cell wall lytic enzymes reveal important physiological and evolutionary traits." <i>J. Biol. Chem.</i> 266(9) p. 5464-71.	
		Lopez, et al. (1997) "The pneumococcal cell wall degrading enzymes: A modular design to create new lysins?" <i>Microbiological Drug Resistance</i> , 3(2) p. 199-211.	
		Loessner, et al. (1999) "Evidence for a holin-like protein gene fully embedded out of frame in the endolysin gene of <i>Staphylococcus aureus</i> Bacteriophage." (1999) <i>Journal of Bacteriology</i> , 181(15) p. 4452-4460.	
		Witte, A et al. (1998) "Characterization of Escherichia coli lysis using a family of chimeric E-L genes." <i>FEMS Microbiol. Lett.</i> , 164(1), p. 159-167	
		Martin, Ana C et al (1998): "Functional analysis of the two-gene lysis system of the pneumococcal phage Cp-1 in homologous and heterologous host cells." <i>Journal of Microbiology</i> 180(2), p. 210-217	
		Oki Masaya et al. (1997) "Functional and structural features of the holin HOL protein of the Lactobacillus plantarum phage phi-gle: Analysis in Escherichia coli system." <i>Gene (AMSTERDAM)</i> 197(1-2) p 137-145.	

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Sheet 5 of 5

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Application Number

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		Young, Ry et al. (2000) "Phages will out: strategies of host cell lysis." <i>Trends in Microbiology</i> , 8(3) p 120-127.	
		Nelson, et al. (2001) "Prevention and elimination of upper respiratory colonization of mice by Group A Streptococci by using a bacteriophage lytic enzyme." <i>PNAS</i> . 98 (7) p. 4107-4112	
		Garcia, et al. (1987) "Purification and biochemical characterization of the pneumococcal bacteriophage Cp-1 lysin." <i>Journal of Virology</i> 61(8) p. 2573 - 2580.	
		Loessner, et al. (1996) "Modified Listeria bacteriophage lysin genes (ply) allow efficient overexpression and one-step purification of biochemically active fusion proteins." <i>Applied and Environmental Microbiology</i> . 62(8) p. 3057-3060	

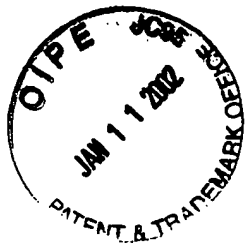
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LIST OF NEW HORIZON PATENTS AND PATENT APPLICATIONS

Patent/Application No.	Country	Filing Date	Issue Date	Inventors	Title
Pat. No. 5,604,109	U.S.A.	09-13-94	02-18-97	Fischetti	A Method for Exposing Group A Streptococci Antigens and an Improved Diagnostic Test for the Identification of Group Streptococcus.
Pat. No. 5,997,862 App No.09/962,523	U.S.A.	10-31-97	12-7-99	Fischetti Loomis	Therapeutic treatment of Group A Streptococcal Infections
Pat. No. 6,017,528 App No. 09/257,025 (Cert. of Correction)	U.S.A.	02-25-99	01-25-00	Fischetti Loomis	Therapeutic Treatment of Group A Streptococcal Infections
Pat. No. 5,985,271 No.09/257,026 (Cert. of Correction)	U.S.A.	02-25-99	11-16-99	Fischetti Loomis	Prophylactic and Therapeutic Treatment of App of Group A Streptococcal Infections
Pat. No. 6,506,954 App.No. 09/395,636 (Cert. of Correction)	U.S.A.	09-14-99	05-02-00	Fischetti Loomis	Use of Bacterial Phage Associated Lysing Enzymes for the Prophylactic and Therapeutic Treatment of Various Illnesses
Pat. No. 6,238,661 App. No. 09/497,495	U.S.A.	04-18-00	05-29-01	Fischetti Loomis	Use of Bacterial Phage Associated Lysing Enzymes for Treating Various Illnesses
Pat. No. 6,264,945 App. No.09/482,992	U.S.A.	01-14-00	07-24-01	Fischetti Loomis	Parenteral Use of Bacterial Phage Associated Lysing Enzymes for the Therapeutic

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Treatment of Bacterial Infections				
Pat. No. 6,056,955 App. No.09/395,637	U.S.A.	09-14-99	05-02-00	Fischetti Loomis
Topical Treatment of Streptococcal Infections				
App. No. 09/654,484	U.S.A.	09-01-00		Trudil
The Use of Phage Associated Lytic Enzymes For the Rapid Detection of Bacterial				
App. No. 09/654,483	U.S.A.	09-01-00		Fischetti Loomis
A Composition for Treatment of A Bacterial Infection of An Upper Respiratory Tract				
Pat. No. 6,254,866 App. No. 09/653,690	U.S.A.	09-01-00	07-03-01	Fischetti Loomis
Use of Phage Associated Lytic Enzymes For Treating Bacterial Infections of the Digestive Tract				
App. No. 09/654,482	U.S.A.	09-01-00		Fischetti Loomis
A Composition for Treatment of a Bacterial Infection of the Digestive Tract				
Pat. No. 6,277,399 App. No. 09/671,882	U.S.A.	09-28-00	08-21-01	Fischetti Loomis
Compositions Incorporating Bacterial Phage Associated Lysing Enzymes For Treating Dermatological Infections				
App. No. 09/671,881	U.S.A.	09-28-00		Fischetti Loomis
A Composition for Treatment of Vaginal Bacterial Infections				
App. No. 09/671,880	U.S.A.	09-28-00		Fischetti Loomis
A Composition for Treatment of An Ocular Bacterial Infection				
Pat. No. 6,248,324	U.S.A.	09-28-00	06-19-01	Fischetti
Bacterial Phage Associated Lysing				

App. No. 09/671,879				Loomis	Enzymes fo Treating Dermatological Infections
App. No. 09/671,878	U.S.A.	09-28-00		Fischetti Loomis	The Use of Bacterial Phage Associated Lytic Enzymes for Treating Dermatological Infections
App. No. 09/671,991	U.S.A.	09-28-00		Fischetti Loomis	A Composition for Treating Dental Caries Caused by Streptococcus Mutans
Pat. No. 6,335,012 App. No. 09/671,992	U.S.A.	09-28-00	01-01-02	Fischetti Loomis	A Method for Treating Dental Caries Caused by Streptococcus Mutans
NOTE: THE USPTO PRINTED THE WRONG TITLE AND THE WRONG CLAIMS					
Pat. No. 6,326,002 App. No. 09/671,990	U.S.A.	09-28-00	12-04-01	Fischetti Loomis	The Use of Bacterial Phage Associated Lysing Enzymes for Treating Bacterial Infections of the Upper Respiratory System
App. No. 09/704,148	U.S.A.	11-02-00		Fischetti Loomis Trudil	The Use of Bacterial Phage Associated Lytic Enzymes to Prevent Food Poisoning
App. No. 09/560,650	U.S.A.	04-28-00		Fischetti Loomis	The Use of Bacterial Phage Associated Lysing Enzymes for the Prophylactic and Therapeutic Treatment of Various Illnesses
App. No. 09/752,731	U.S.A.	01-03-01		Fischetti Loomis	The Parental Use of Bacterial Phage Associated Lysing Enzymes For The Lysing Enzymes for the Therapeutic

Treatment of Bacterial Infections				
App. No. 09/932,460	U.S.A.	07-13-01	Fischetti Loomis	The Use of Bacterial Phage Associated Lysing Enzymes for Treating Various Illnesses
Prov. No. 60/324,089	U.S.A.	09-24-01	Fischetti Loomis	The Use of Bacterial Shuffled and Chimeric Phage Associated Lytic Enzymes for the Prophylactic and Therapeutic Treatment of Colonization and Infections caused By <i>Streptococcus Pneumoniae</i>
App. No. 09/960,472	U.S.A.	09-24-01	Fischetti Loomis	The Use of Bacterial-Phage Associated Lysing Enzymes for the Prophylactic and Therapeutic Treatment of Colonization and Infections Caused by <i>Streptococcus pneumoniae</i>
App. No. 09/908,737	U.S.A.	07-19-01	Fischetti Loomis	Parenteral Use of Bacterial Phage Associated Lysing Enzymes for the Therapeutic Treatment of Bacterial Infections
App. No. 09/910,940	U.S.A.	07-13-01	Fischetti Loomis	The Use of Bacterial Phage Associated Lytic Enzymes to Prevent Food Poisoning
App. No. 09/844,435	U.S.A.	04-30-01	Fischetti Loomis	The Use of Bacterial Phage Associated Lysing Enzymes For

Treating Various Illnesses

The Use of Bacterial Phage
Associated Lysing Proteins for the
Prophylactic and Therapeutic
Treatment of Various Illnesses

A Means for the Prophylactic and
Therapeutic Treatment of
Streptococcal Infections

Fischetti
Loomis

Fischetti
Loomis

App. No. 09/846,688 U.S.A. 05-02-02

PCT/US99/04063	PCT	02-25-99
N/A	INDIA	
99909595.3	EPO	
2000-600679	JAPAN	
2001126302	RUSSIAN FEDERATION	
not yet filed	POLAND	
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514260	NEW ZEALAND	
2001-700898	NORTH KOREA	
200105279-4	SINGAPORE	
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